WO 2005/112648 PCT/IB2005/000850

060784-5001-WO

We claim:

1. A process of preparing a water-soluble sulphur-containing oil, comprising the steps of: combining an oil containing at least one sulphur-reactive site selected from the group consisting of an alkene bond, an alkyne bond and a hydroxy group with a sulphur-donating agent under conditions sufficient to cause at least about 30% of the sulphur-reactive sites in the oil to react with the sulphur-donating agent,

allowing the resulting sulphur-containing oil to stand for a time sufficient to complete reaction with the sulphur-donating agent; and neutralizing the sulphur-containing oil with a base.

- 2. The process according to claim 1, wherein the sulphur-donating agent is selected from the group consisting of sulphuric acid, sulphur trioxide and sodium bisulfite.
- 3. The process according to claim 2, wherein the sulphur-donating agent is sulphuric acid.
- 4. The process according to claim 3, wherein the concentration of the sulphuric acid is at least about 2 N.
- 5. The process according to claim 1, wherein the sulphur-containing oil is selected from the group consisting of a sulphated oil, a sulphonated oil and mixtures thereof.
- 6. The method according to claim 5, wherein the oil is a sulphated oil.
- 7. The process according to claim 1, wherein the base is selected from the group consisting of sodium hydroxide, potassium hydroxide, sodium carbonate, potassium carbonate, calcium hydroxide, diethanolamine and ammonium hydroxide.
- 8. The process according to claim 7, wherein the base is sodium hydroxide.

WO 2005/112648 PCT/IB2005/000850

060784-5001-WO

9. The process according to claim 8, wherein the concentration of the sodium hydroxide is at least about 2 N.

- 10. The process according to claim 1, wherein the oil is selected from the group consisting from canola, coconut, palm, cottonseed, palm kernel, olive, flax, castor, soybean, sunflower, corn, grape seed and peanut.
- 11. The process according to claim 10, wherein the oil is canola oil.
- 12. The process according to claim 1, wherein the oil and the sulphur-donating agent are combined under cooling.
- 13. The process according to claim 12, wherein the cooling maintains the temperature below about 40° C.
- 14. The process according to claim 1, wherein the neutralization of the sulphur-containing oil with the base occurs under cooling.
- 15. The process according to claim 14, wherein the cooling maintains the temperature below about 40° C.
- 16. A fungicidal, water-soluble sulphur-containing oil prepared by

combining an oil containing at least one sulphur-reactive site selected from the group consisting of an alkene bond, an alkyne bond and a hydroxy group with a sulphur-donating agent under conditions sufficient to cause at least about 30% of the sulphur-reactive sites in the oil to react with the sulphur-donating agent,

allowing the resulting sulphur-containing oil to stand for a time sufficient to complete reaction with the sulphur-donating agent; and

neutralizing the sulphur-containing oil with a base.

WO 2005/112648 PCT/IB2005/000850

060784-5001-WO

17. The sulphur-containing oil according to claim 16, wherein the sulphur-donating agent is selected from the group consisting of sulphuric acid, sulphur trioxide and sodium bisulfite.

- 18. The sulphur-containing oil according to claim 17, wherein the sulphur-donating agent is sulphuric acid.
- 19. The sulphur-containing oil according to claim 16, wherein the base is sodium hydroxide.
- 20. The sulphur-containing oil according to claim 19, wherein the concentration of the sodium hydroxide is at least about 2 N.
- 21. The sulphur-containing oil according to claim 18, wherein the oil is canola oil.
- 22. A method of controlling or killing a plant pathogen present in a plant, in soil, in water or on an artificial surface comprising contacting the pathogen with an effective amount of the sulphur-containing oil of claim 16.
- 23. The method according to claim 22, wherein the pathogen is selected from the group consisting of molds, mildews, fungi, mosses and rusts.
- 24. The method according to claim 22 wherein the artificial surface is a roof.
- 25. A method of stimulating a plant's uptake of nutrients from the soil, comprising treating a plant in need thereof with an effective amount of the sulphur-containing oil of claim 16.
- 26. A method of adjusting soil pH comprising treating the soil with an amount of the sulphur-containing oil of claim 16 effective to obtain a contemplated pH.